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# On-Demand Production Requests

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# PDPS Roadmap



*Special Topic: Production Rules*

Capture PGE Profile at **SSI&T**

Describe Production Goals through **Production Requests**

## **Accept On-demand Production Requests**

Accept Resource Reservations and Create **Resource Plans**

Planning Production Controls - Create and Activate **Production Plans**

Coordinate Production from Data Arrival with **Subscription** Notifications

Handle L0 **Data Preparation**

*Special Topic: Production Subsetting*

Realtime **Production** Controls and PGE Execution Monitoring

*Special Topic: PGE Error Handling*

**Quality Assurance** Check Output Products

*Special Topic: PDPS Database*

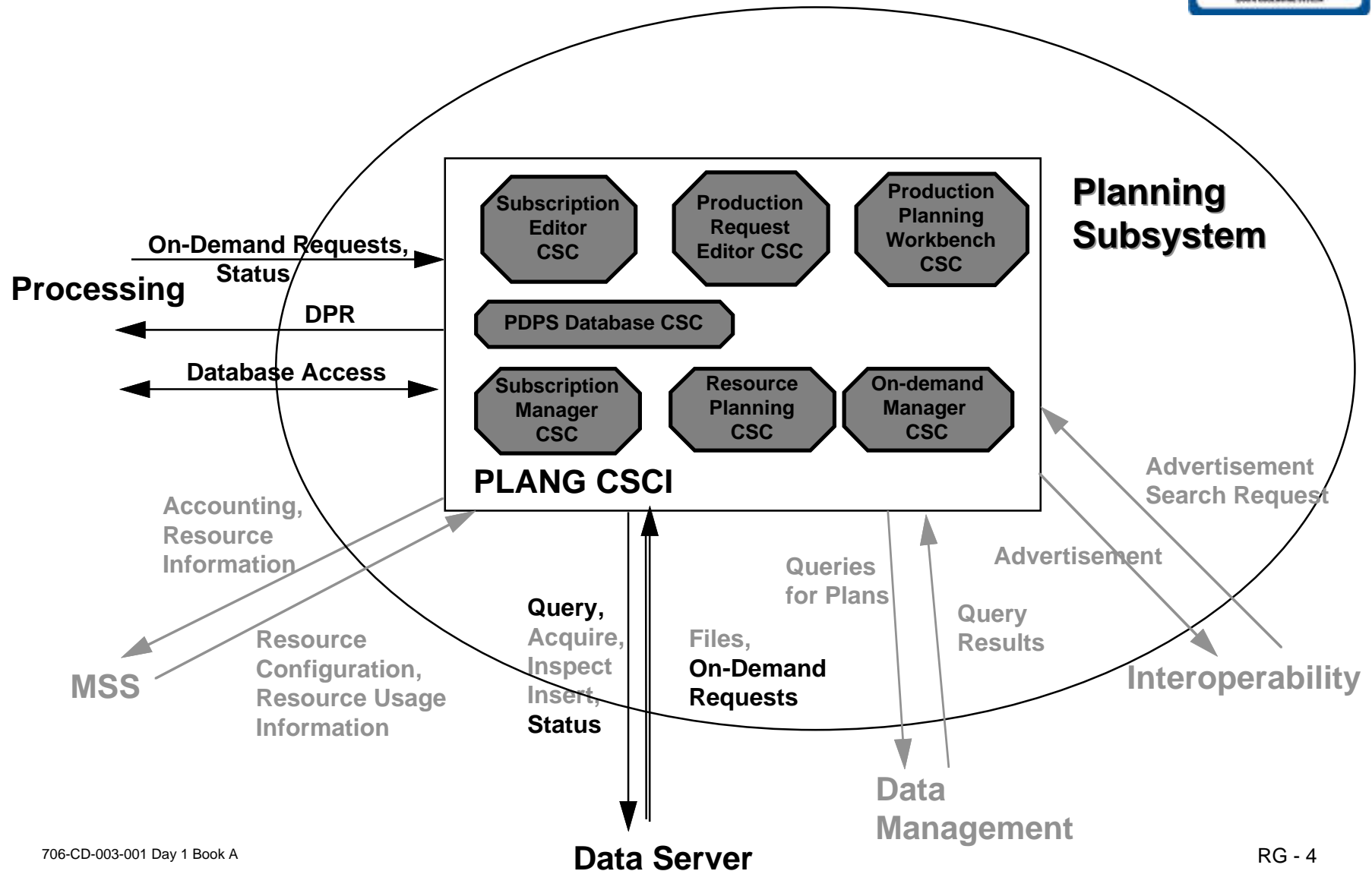
*Special Topic: Ancillary Data Pre-Processing*

# On-Demand Production Design Requirements

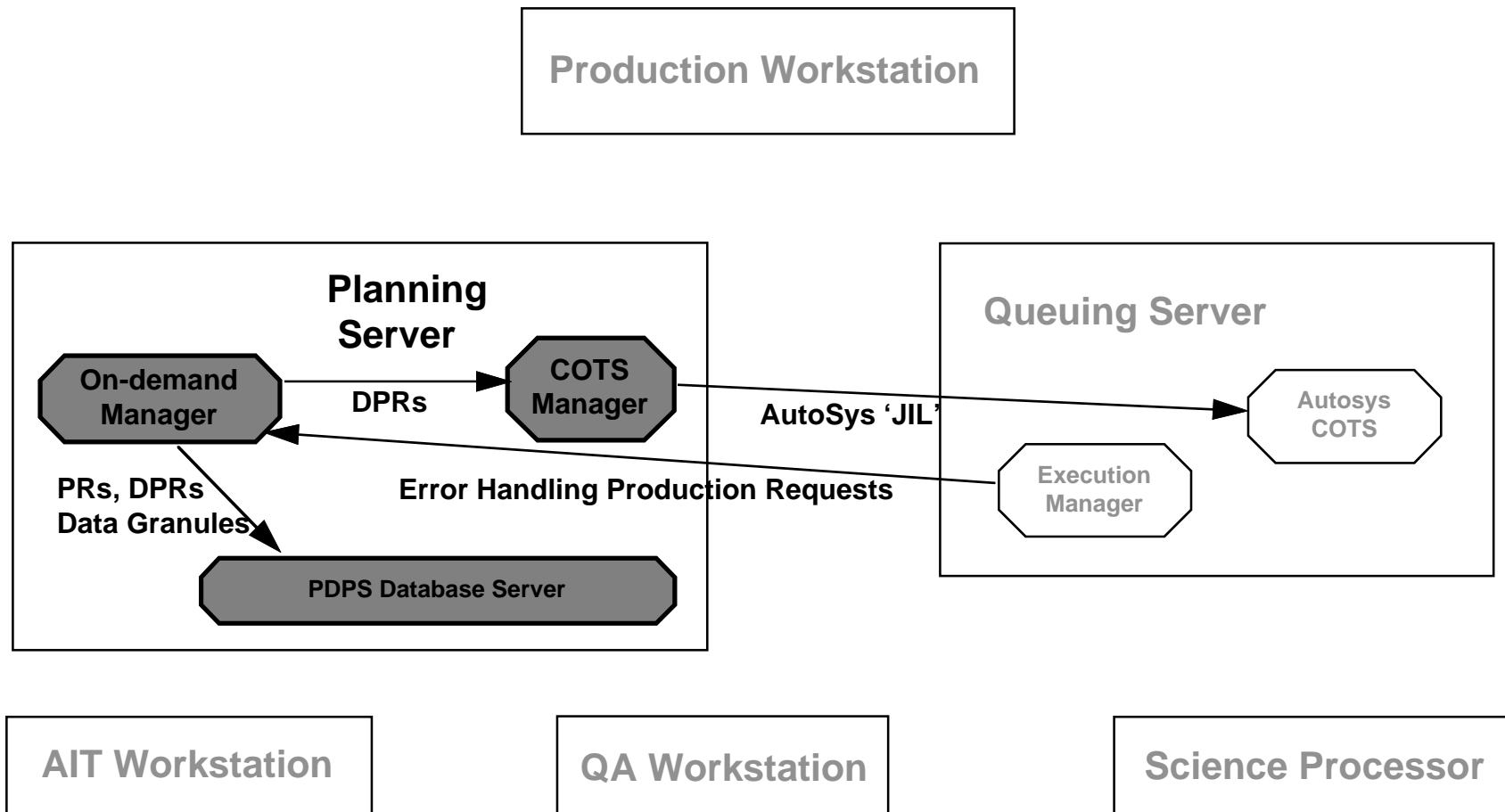


- **General Functional Description**
  - **The Planning Subsystem shall:**
    - **Accept Production Requests for On-Demand Data Product and confirm acceptance.**
    - **Allow operator to specify usage thresholds for On-Demand Production Requests.**
    - **Defer requests for future planning when thresholds are exceeded and notify staff.**
    - **If request meets requirements forward Processing Requests to the PRONG CI.**
    - **Accept modifications/ cancellations for On-Demand Requests and return status.**
    - **If Replan threshold is exceeded notify operator of possible need for a replan.**
- **New Release B Features**
  - **On-Demand Production Function is a totally new capability for Release B.**

# On-Demand Production Software Architecture Overview



# On-Demand Production HW/SW Architecture



# On-Demand Production Public Interfaces/Key Mechanisms



- **Data Server Interface**
  - Creating On-Demand Production Requests.
- **Data Processing Subsystem**
  - Creating On-Demand Production Requests for error based reprocessing, submission based on the error generated.  
(There will be a special presentation about this tomorrow)
- **Key Mechanisms**
  - Process Framework
  - Distributed Object Framework
  - Request Tracking
  - Subscription Server
  - Universal References

# On-Demand Production Request



- **Object Model**

- On-Demand Manager View**

- 305-CD-026-002 4.2.13**

- **Event Traces**

- On-Demand Production Request**

- Scenario (Processed)**

- 305-CD-026-002 4.4.19**

- This scenario describes how an On-Demand Production request is created in the planning environment and validated then passed on to the processing subsystem.

- On-Demand Production Request**

- Scenario (Delayed)**

- 305-CD-026-002 4.4.21**

- This scenario describes how an On-Demand Production request is created in the planning environment, validated and though the data is not available the request is still passed on to the processing subsystem. A subscription for the data is created and the job waits for it to be made available before processing continues.

# On-Demand Production Request (cont.)



- PDL:

**EcTInt PIONdemandPRNB::**

**ValidateOPR()**

**305-CD-026-002 4.3.66**

This operation creates the Data Processing Request (DPR) necessary to generate the requested product, determines if resource thresholds are exceeded and if not checks for the availability of data necessary. If all checks are positive then the DPR is released to the processing subsystem for product generation and the status is returned to the requester for their subsequent action.



# Limited Automatic Replan Based on OPR



- Object Model:**

- On-Demand Manager View**

- 305-CD-026-002 4.3.13**

- Event Traces:**

- Limited Automatic Replan  
based on an OPR**

- 305-CD-026-002 4.5.20**

- This scenario describes how an automatic replan notification is initiated by an On-demand Production Request (OPR).

- PDL:**

- EcTBoolean PIONdemandExceed::**

- CheckReplan(PIONdemandPR & opr) 305-CD-026-002 4.3.64**

- This method checks if an On-demand Production Request exceeds the resource thresholds set for limited automatic replans. If any do, the operator is notified that a replan should be considered.

# On-Demand Production Request Collections



## Background

How can a user request a higher level product:

- If lower level products needed to create this product aren't archived?
- If there are multiple ways this product can be generated?

## Approach

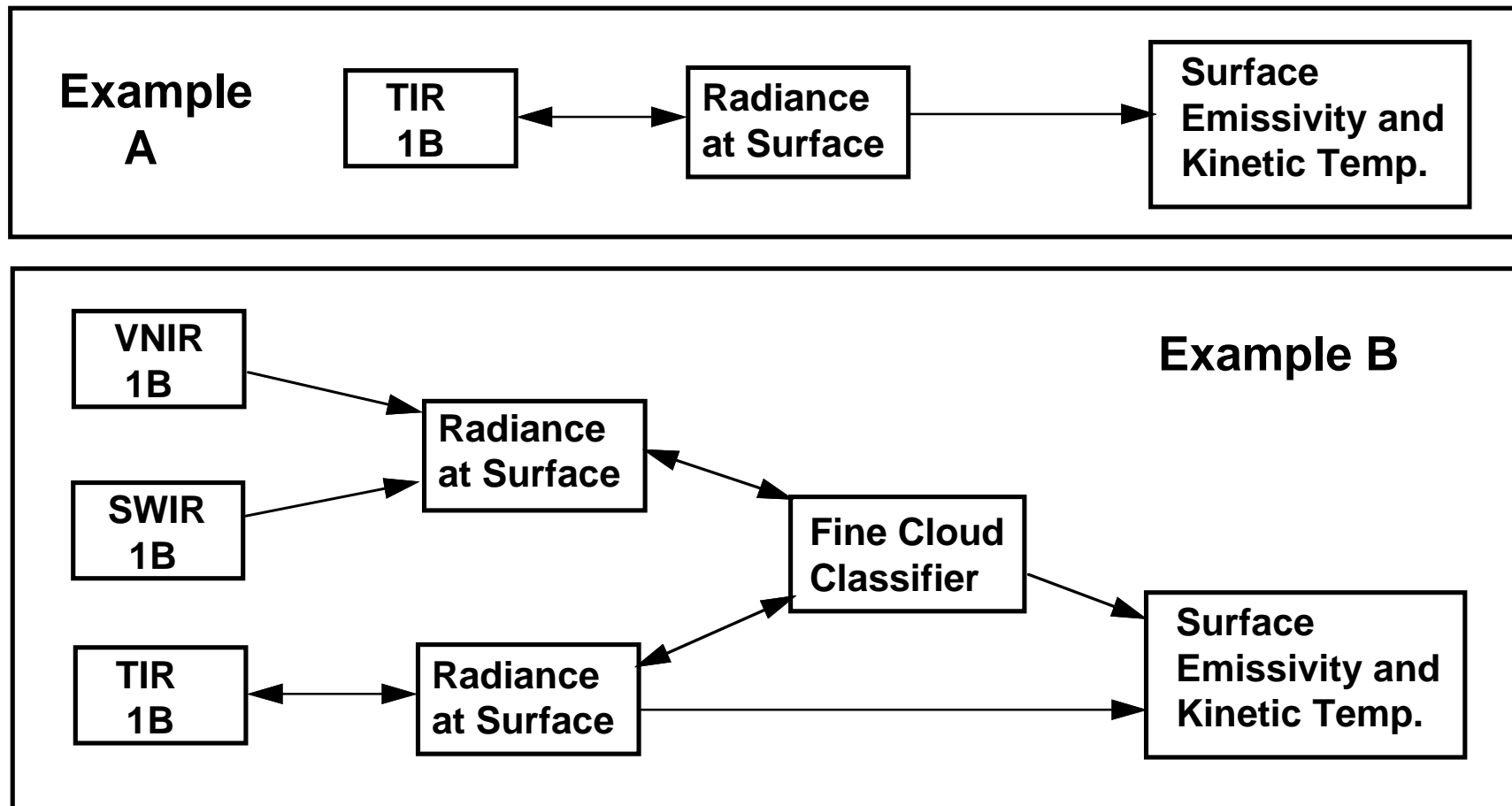
### Production Request Collections

- During SSI&T PGEs are grouped according to production methods to form Production Request Collections.
- Advertising descriptions are created for each possible production method describing the requirements.
- User selects the production service desired and based on his selection the production collection is forwarded with necessary runtime inputs identified.

# On-Demand Production Request Collections



## ASTER EXAMPLE:



# Summary



## The Planning Subsystem shall:

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